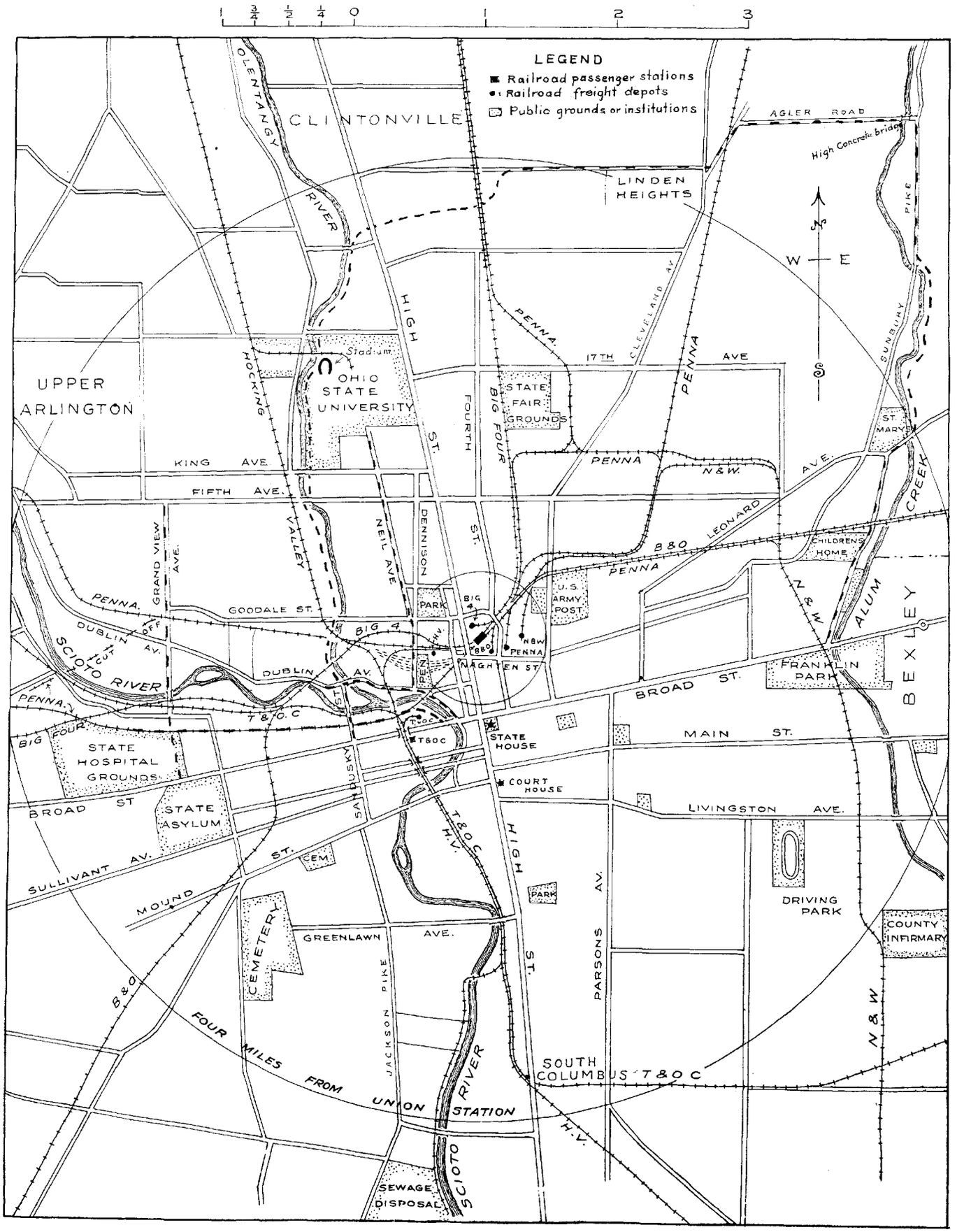
MAP OF COLUMBUS, OHIO
SHOWING
LOCATION OF PROPOSED
NEW PASSENGER TERMINAL

Scale of miles



A New Passenger Terminal for Columbus

By PROF. C. E. SHERMAN, *Dept. of Civil Engineering*

Cities of the North Central States—characteristically American—have had great difficulty in keeping their transportation facilities up to increasing traffic demands. Many cities are woefully lacking in traffic accommodations at the present time, and are seemingly unable to successfully solve such problems. Cincinnati, in the way of terminals, has been in sad plight for many years. Cleveland has a very difficult passenger terminal problem. In the congested Pittsburgh district it requires commanding ability to keep railroad freight and passengers moving.

Natural topographic conditions are making their limitations felt at some places, as at Pittsburgh, Cincinnati and elsewhere. The high hills that hem the narrow valleys in which the towns started, impose an increasing burden as these cities grow. Topography also has its effect on lake cities such as Buffalo, Cleveland, Detroit, and Chicago. For, altho these cities are not limited by hills, their business centers, first established on or near the water front, become increasingly distant from the bulk of the population, which of necessity spreads out fan-shape away from the lake, leaving the active business center at the remote apex of the fan.

The list of cities in traffic difficulty at present may be greatly extended by including smaller places like Toledo, Akron, Columbus and many other towns. Even towns surrounded by no important topographic limitations seem subject to the same trouble—rapid obsolescense of passenger and freight terminals.

Considering from now on, only passenger terminals, Columbus is no exception to the general rule, altho like Toledo it is free to grow in practically any direction so far as topography is concerned. The present Union Station is the third which has stood on the same site, and it is inadequate now after 24 years of service. The preceding station lasted 22 years and its predecessor lasted 21 years. This is too high a rate of depreciation for comfort, and yet it is not far from average American experience.

Why should traffic accommodations of American cities become so rapidly obsolete? The reason is generally overlooked. It is that traffic grows almost as the *square* of the population adequately served. That is, if the population of a town doubles, its traffic is not doubled, it is more nearly quadrupled! Not so in other matters, water supply for example. For increased water supply, simply add 100 gallons daily for each person added by the census to the population, and the supply is generally ample, no matter where the city or what the growth.

The population of Columbus in 1860—nearly 10 years after the first railroad entered—was about 18,000; in 1870 about 31,000; in 1880 about 52,000; in 1890 about 88,000; in 1900 about 127,000; in 1910 about 181,000, and in 1920 it was closely 237,000. The population has settled fairly concentrically around the town as first chartered, altho the center of population has moved north about half a mile (to the Union Station) from its original position, which was at or near the State House.

It is not safe to assume the growth of Columbus has stopped or will soon stop. In fact very careful estimates—that for the new water supply now being planned—show that the population will be 500,000 in 40 years more. Contrast this with the growth during the past 40 years. No less than half a million people should therefore be provided for when a new terminal is built. This consideration alone eliminates the present Union Station site, for there is not room for future expansion.

The accompanying map, with a few words of brief description, will make the situation clear. Fourteen railroads enter the city as shown, from as many different parts of the State. These 14 lines are under the control of five operating companies, as follows: The Pennsylvania Railroad Co., the Baltimore and Ohio, the Norfolk and Western, the Chesapeake and Ohio (operating the Hocking Valley railroad) and the New York Central Railroad Co., which operates the Big Four and T. & O. C. lines.

The T. & O. C. uses the West Broad station only, but all other lines enter Union Station with their passenger trains. The Hocking Valley passenger trains run into the Union Station as a head or sub station at considerable inconvenience, and use the T. & O. C. tracks to South Columbus. The Hocking Valley and the N. & W. railroads are tenant companies using Union Station which is controlled by the other three companies above mentioned. The B. & O. uses the Big Four tracks from the Station west to the Scioto River crossing. With these exceptions, and the joint use of the B. & O. and the Pennsylvania of the tracks running east to Newark, all companies are using their own lines into the city.

Between High and Fourth streets, in the area north of Naghten, sets the present Union Station surrounded by freight houses and team tracks. Through this congested area or "bottle neck" run all the east and west freight trains of the Pennsylvania and B. & O. and many of those of the Big Four. It may thus be said that the present Union Station is superimposed upon an area needed badly for freight purposes, for, it congests with its eight tracks and waiting trains, the flow of through traffic and the switching of freight cars. To use the same area for a new terminal must be a temporary expedient, very costly in the end. Besides, a Union Station is the main portal to a city and a portal surrounded with freight depots and team tracks is not an attractive one.

The various freight depots, represented by black spots on the map, are well located to serve the central region of the city. They should be disturbed as little as possible, altho it may be necessary to move the Hocking Valley depot from the northeast corner to the west side of the Penitentiary, if this site is chosen for the new terminal. Ultimately a belt or partial belt line will be needed to serve outer industries, and over this

belt freight trains may be detoured to avoid the "bottle neck."

EIGHT CONDITIONS

Eight important conditions should be met by a passenger terminal, especially a Union Station. They are that the new terminal site should:—

1. Be centrally located.
2. Be easily accessible to *all* railroads.
3. Provide for ample future expansion.
4. Have ample street connections and entrances.
5. Afford a beautiful view of the city.
6. Be located on reasonably cheap ground.
7. Be a thru (not a head or sub) station.
8. Have elevated tracks.

The small circle on the map is one mile in diameter. The settled area of the city touches or extends slightly beyond the large circle on the north, south, east and west. Bexley and Upper Arlington are really integral parts of the city. Linden Heights has just been taken into the corporation, and Clintonville was taken in some time ago. Therefore the Union Station should be within or close to the smaller central circle.

Examining in detail all sites within or near this circle it is found that only one, the Penitentiary site and adjacent grounds, can meet the necessary requirements. The United States Barracks, the ball park to the west, and Goodale Park can hardly meet half the necessary conditions. Goodale Park, the next best site to the Penitentiary, cannot meet conditions 6, 7 and 8 listed above, and it meets only indifferently, condition number 5. Besides, its deed to the city provides that it shall revert to the heirs of Lincoln Goodale, if used for other purposes than a park.

The Penitentiary site is being abandoned by the State. This 28 acres, and contiguous territory, should be organized for railroad purposes by the city, the State and the railroads in cooperation. The light broken lines on the map suggest how the tracks may run thru it. The station building proper would set south of the tracks or train shed, and front on the river, as shown in accompanying photograph of a model made by students in architecture at the State University. The east and west axis of the station building proper would be on the center line of Chestnut Street which would form the east entrance to the station, the main entrance being on the river side, and a third entrance fronting on Dennison Avenue.

No more beautiful view of the city can be obtained for a station. Passengers stepping out of the station would look south over the river toward the new concrete arch bridges at Broad and Town Streets which form a part of proposed Victory Park. A boulevard sweeping around the north river bank in front of the station would connect it directly with Broad Street and the south and east parts of the city. This same boulevard extended along Dublin Avenue, would connect the station directly with the northwest part of town.

Sandusky Street, now 100 feet wide to the river, should be carried thru at the same width to Dublin Avenue, thus giving the West Side ready access to the new station and eventually doing away with the need of the T. & O. C. station.

BOULEVARD SYSTEM

No other site lends itself so well to future boulevard connections. The heavy broken lines on the map suggest some of these boulevards or wide streets. That one up the Olentangy to Ohio Stadium is under formal consideration now. A remarkable topographic opportunity of extending this boulevard north and east to Alum Creek, thence down this stream to Broad Street, is being investigated by civil engineering students at the University, but space forbids description here.

This circuit, shown by heavy broken line, would admirably serve the north and northeast parts of the city in quickly reaching the station and the center of town. Neil Avenue at Goodale Street should also be cut straight thru to Dennison, which is about to be improved to eliminate grade crossings, south to the Scioto river. This will then connect the North Side directly with the river boulevard and new station, making the latter more accessible (with its three entrances) than is the present station with only one.

A similar speedway circuit can be arranged for the West Side (that territory south and west of the Scioto River). The Pennsylvania tracks, south of and parallel to the Scioto, can be converted into a portion of such speedway, connecting as shown with the west end of the Broad Street bridge. This connection is already available by reason of the river improvements now under way. The levee from Broad Street south is being made wide enough to form another portion of such a West Side circuit, and may connect near Greenlawn Avenue with the Jackson Pike, thence to the sewage disposal works, thence west and thence north to close the circuit.

The above suggested circuit involves abandoning the Pennsylvania bridge in front of the Penitentiary and the tracks running west from the bridge. Practically no factories are served on this part of the tracks and the city could buy the right of way as a part of its cooperation in the general plan. The Cincinnati trains could be brought into the new station by using the cut-off shown at the west side of the map. Thus these trains would avoid four railroad grade crossings, for, the T. & O. C. would be crossed overhead by the cut-off.

Boulevard or wide street circuits, similar to the northeast and southwest ones just mentioned, can be arranged also for the northwest and southeast parts of the city. Thus Broad Street east and High Street south from the State House (both streets being wide) would form two sides of the southeast loop. These four loops, connected conveniently, would form a system difficult to equal in any city in the country. Any loop, or any combination of the loops could be circled, and every circuit would furnish a maximum of river drive (with consequent minimum of interruption), for, the northwest circuit also would have river drives (Dublin Avenue widened and a drive along the Olentangy) on all but the northern part of the circuit running east and west between the rivers.

PROPOSED WATERWAY

If the Central Route is chosen by the U. S. Army engineers (who are now preparing a report on the project) to connect Lake Erie with the Ohio River by using the slack-watered Scioto as

a part of the channel, the waterway would fit in admirably with the future developments of the city previously outlined.

If the Scioto is improved as a portion of the proposed route, there would be a beautiful stretch of water 300 feet wide and 12 feet deep, reaching from the sewage disposal grounds upstream thru the heart of the city eight miles to half a mile west of Grandview Avenue, at which point a lock and dam would pool the water four miles to the storage dam. The surface of this eight-mile pool would clear all bridges by 25 feet at low water, and its fluctuations would become insignificant, thus making an excellent water park for the city.

The water terminal for the city would logically be at the junction of the Olentangy in the angle between Dublin Avenue and Sandusky Street, which property is now owned by the city. The Scioto would have to be straightened from Sandusky Street west to Grandview Avenue for navigation purposes, and it is remarkable how this straightening would facilitate elimination of railroad grade crossings on the two streets mentioned, which are the only available connections between the West Side and the northwest part of Columbus. The river banks on either side between the two streets would furnish two or three miles of frontage for waterfront plants.

The pool surface of the eight-mile stretch would be about at elevation 698 above sea level (four feet lower than the crest of the old State dam) and this lowering of the present surface would greatly help in putting the Olentangy Boulevard under the tracks north of Dublin Avenue, as well as greatly help in readjusting the Mound Street crossing of the Hocking Valley railroad.

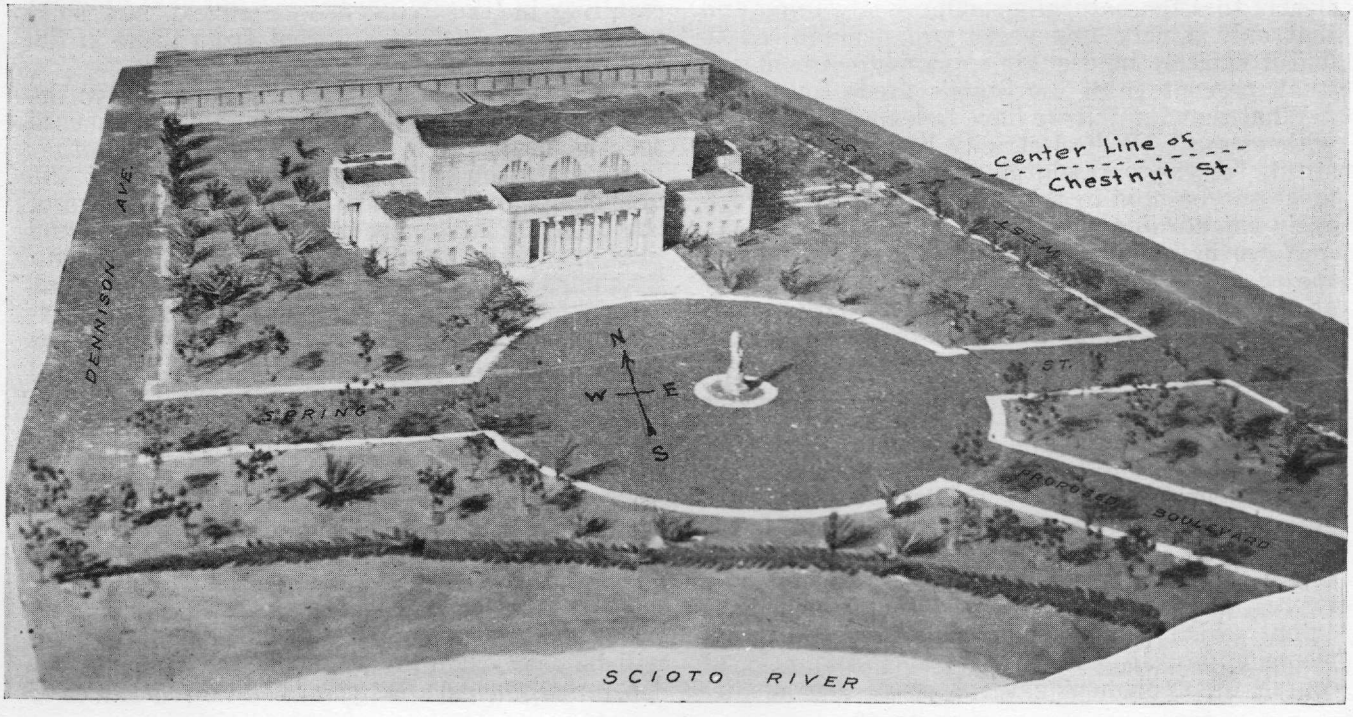
RAILROAD AND STREET CAR OPERATION

It is not too much to hope that the United States Government will soon permit railroads to combine more freely than they have in the immediate past. The day of "trust busting" is past, for, the problem now is not how to break up combinations which may be advantageous to all concerned, but to insure that an equitable distribution of the benefits is secured. In the case of railroads, ample provision now exists to secure such benefits thru the Interstate Commerce Commission and the State Public Utilities Commission.

Such a combination of the N. & W. railroad with the Pennsylvania lines existed but was dissolved by the United States in 1906. The pooling of the interests of these two lines at Columbus was investigated as a thesis by students under the writer's direction, and it shows that great advantages would result to both the city and the railroads if such combination were permitted.

Similarly if a terminal company were organized to handle all the railroad facilities within the city, far more effective results could be obtained than under present methods. Rerouting could gradually be used to greatly improve the service. For example, it might be found in future that southbound T. & O. C. trains could proceed into Union Station on the Big Four tracks, thence east on B. & O. to the U. S. Ware House, thence south four miles on its own tracks to Bannon, thence on as usual; northbound trains vice versa. The Hocking Valley southbounds, likewise, could run as thru trains into Union Station, thence east on B. & O. and thence south on N. & W., six miles to its own lines at Valley Crossing; northbounds vice versa. This would do away with the T. & O. C. station, but it would not inconvenience West Siders if the Penitentiary site were made available, as proposed. The railroads could thus save by all combining to operate one thru station.

As to the street car rerouting, not much may now be said for lack of space. Rerouting is undergoing adjustment between the city and raillight authorities as this paper is being written. The difficulty is that High Street from the Union Station to the State House is badly congested with street cars and other vehicles. The Dublin Avenue car line is the only one at present passing



the Penitentiary, but it can be seen from the accompanying map that the Neil Avenue line could easily be brought down Dennison Avenue to the river boulevard, and follow this around to Main Street, and then proceed east over its present route, instead of using congested High Street from Goodale to Main, as it does now. Proper rerouting of street cars forms a large subject and will not be treated here.

CONCLUSION

Columbus is happily situated thus far. Its traffic ills are easily curable if foresight is soon employed, not to spend great sums at once, but to plan to avoid the choking which has involved so many cities as their population has approached or passed the half million mark.

One peculiarity of Columbus is the tendency to overuse one street—High street north of the State House. Future growth will force a greater use of Front, Third and Fourth Streets, with the east and west connections, and fortunately the streets in this business section are wide. High Street north of the viaduct is being widened at a cost of about $500,000 per mile. This is very cheap indeed compared with costs in many other cities, and suggests the importance of securing lands promptly for future wide streets or boulevards, especially along the rivers, whether such highways go paved or unpaved for a number of years.

Similarly Columbus has a remarkable opportunity, in contrast with every other city that the writer knows, of effectively solving its Union Station problem. The land around the Penitentiary is remarkably cheap for so central a location. It should be organized for railroad purposes for the future welfare of all.

The cry should not be so much for faster as for better growth. The wrong emphasis in this matter has long made American civic ills the target of every European municipal observer.

*Errata: For 4-mile circle in this article and map, read 3.5 mile circle.